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# TWO NEW SPECIES OF APHIIDAE

By F. C. Hottes

Two apparently new species of plant lice are herewith described. Attention is also called to what appears to be a little known case of aphid synonymy.

## Aphis unaweepiensis, new species

Apterous viviparous female

Size and general color.—Length from vertex to top or anal plate 1.99-2.97, average length 2.62. General color varying from light blue gray to light greenish-gray. The body is not shining but has an exceedingly light amount of powder-like pulverulence. The following structures are more or less dusky brown to brown: the head particularly the vertex and the dorsum, segment one of the antennae and the apical portions of the third fourth and fifth antennal segments. The apical three fourths of the sixth segment is also as a rule brown. The apical portions of the femora and tibiae and the entire tarsi are brownish, and so are the third fourth and fifth segments of the rostrum. The cornicles are more or less brownish throughout but the apical portions are dark brown to almost black. In living specimens the cornicles are very conspicuous. The cauda is brown and noticeably darker near the tip and along the outer margins The anal plate is brownish particularly so near the outer margin.

Head and appendages.—There are no secondary sensoria. The ocular tubercles are poorly developed and are difficult to see on some specimens. All antennal segments are coarsely imbricated. Proportional length of antennal segments as follows: III .199-.242, most common length .214, IV 2.14-.228 most common length .214 or sub equal to III, V .199-.214 as a rule equal or subequal to III, VI .114-.128 +.138-.199. The head is very broadly set on to the thorax so that it appears to be wider through the eyes than it actually is .499-.528. The vertex is broadly rounded. The head is somewhat extended laterally and then recessed for the attachment of the first antennal sgment. On the dorsum there are two small facetted areas suggestive of wax glands. The first antennal segment is short and wide and out of proportion as to width in regard to the second. The apical margin of the first segment is as a rule wavy or scalloped. The third segment of the rostrum extends beyond the coxae of the metathoracic pair of legs and the fourth and fifth segments which measure .214 or about equal to the third antennal segment, considerably beyond them. The hair on the antennae are exceedingly sparce and fine. In length the antennal hair vary from one fourth to a little less than one half the width of the segment. As a rule they are very short and much inclined.

Thorax.—There are no lateral tubercles on the thorax. The hind tibiae are from .999-1.05 long. The hind tarsi vary from .128-.142 in length. The hair on the tibiae are sparce and very evenly distributed. In length the hair on the tibiae are somewhat shorter than the width of the segment. It should also be noted that the hair at the apex of the tibia is of the same character and distribution as that found elsewhere.

Abdomen.—As a rule two poorly developed lateral tubercles may be seen anterior to the cornicles, and one pair, poorly developed far posterior to them. The tubercles are difficult to see. The cornicles vary in length from .285-.357. As a rule the cornicles the about .328 long, they taper slightly from their origin to the apex which is without a flange. The cornicles are imbricated but less so than the antennae. The cauda is almost a perfect triangle, its surface is setulose, on the outer margins one may find from five to six hair. The cauda is as a rule .1428 long. The anal plate is very wide and short, on its posterior surface there is a row of hair, on its upper surface it is setulose.

This species probably belongs to the outer fringe of the *Aphis maidiradicis* Forbes *Aphis middletoni* Thomas (as interpreted by Gillette and Palmer) complex. From these species it differs in the following ways: antennal segments III, IV, and V are as a rule equal or segments IV and V are subequal to III, the much longer rostrum, and the less hairy cauda. The thorax is also free from lateral tubercles and the tubercles on the abdomen are more poorly developed. From *Aphis middletoni* it differs in the total lack of secondary sensoria.

One may hazard the guess that the species has no alternate host, or if it has that the alternate host is not corn.

Holotype.—Apterous viviparous female. Data associated with Holotype: Host *Sarcobatus vermiculatus* which is commonly known as Greasewood. Unaweep canyon, near Whitewater, Colorado. July 10, 1947. Deposited in United States National Museum. Paratypes from the same locality taken on the following dates: July 10, and 28, 1947 and Aug. 4, 1947. All specimens were taken feeding on the roots near the crown of the host. Apparently this species is quite rare but the difficulty and labor involved in collecting it may account for the above statement. It may be reared with ease away from its natural habitat. Despite attempts to collect alate specimens or to rear them they are yet to be found. The writer wishes to thank Prof. M. A. Plumer for her opinion regarding this form.

### Macrosiphum yagasogae, new species

Alate viviparous female.—This form is described from one specimen which was badly injured after mounting. Because of this fact it is not made the holotype.

Size and general color.—Length from vertex to tip of anal plate 3.18. Width across eyes .585. Head antennal tubercles and first two antennal segments dusky brown shading to brown. Thorax dusky brown except for the areas surrounding the insertion of a comparatively few hair. These areas are clear and suggest small sensoria when one does not see the hair. Abdomen grennish-yellow except for a few dusky spots on the dorsum near the anterior end and in the region of the cornicles and for more or less confluent spots on the lateral surfaces. The cornicles are

more or less dusky throughout but are darkest at the base and apex. The femora are quite pale except for a slight brownish tinge at the knees. The tibiae are pale except for a distance at the apex a little longer than the tarsi which is brownish. The tarsi are brown.

Head and appendages.—Antennal segments three and four quite pale except for apical portions which are dusky. Antennal segments five and six dusky. Proportional lengths of antennal segments as follows: III .928, IV .771, V .756 (measured from two parts), VI .28 + 1.51 (measured from three parts). Segment three is very faintly imbricated, segment four from the middle towards the apex is lightly imbricated, and segments five and six are moderately imbricated. The secondary sensoria are limited to the third segment, they occur in a straight row, have narrow rims and number 13 on one antenna and fourteen on the other. The antennae have very few fine sharp-pointed hair. On the third segment they are much shorter than one half the width of the segment and on the fourth segment they are about one half the width of the segment in length. The hair on the antennal tubercles and the vertex is fine and a little longer than the hair on the first and second antennal segments. All hair on the head and body is sharp-pointed. Segments four plus five of the rostrum measure .142 long. The fourth segment of the rostrum has four inwardly pointed hair on each side, these are about one half the width of the segment in length.

Thorax and appendages.—The prothorax has a pair of very poorly developed lateral tubercles, these are hardly more than slightly raised circles. The wings have been destroyed. The hind tibia are 2.54 long. The hair on the basal half of the tibia is finer and somewhat shorter than that near the middle. On the brown portion of the tibia the hair is fine and short. The hair on the tibia is of two types a fine shorter type alternating more or less with a longer coarser type. The tarsi measure .214 long, the convex surface of the second segment is almost free from hair while the concave surface is quite hairy.

The abdomen.—The cornicles measure .785 in length. They are of uniform width and have a slightly developed rim. The last .171 of the cornicles is reticulated. The anal plate is quite narrow and strongly curved and because of this is rather long. The cauda is about .785 long, it has a setulose surface and has three hair on one side and four on the other.

Apterous viviparous female

Size and general color.—Length from vertex to tip of anal plate 3.14. Width across eyes .656. With the exception of the parts enumerated the body is uniformly cream colored. Vertex and antennal tubercles slightly dusky. The apical portions of the third and fourth antennal segments are slightl dusky, the apical portion of the fifth segment is darker than that of the third and fourth. The sixth segment is uniformly dusky. All legs are pale except the apical portions of the tibiae which are light dusky, and the tarsi which are brown.

The distal portions of the cornicles are light dusky with the slightly developed rim darkest. The cauda is concolorous with the abdomen except for the darker setulose surface.

The head and appendages.—Antennal segments with the following proportional lengths: III .91, IV .57, V .71, VI .21 + .92. Near the base of the third antennal segment there may be one small narrow-rimed

secondary sensorium. This sensorium may also be lacking. The hair on the antennae are sparce fine, sharp-pointed and about one half the width of the segment in length. All antennal segments are lightly imbricated. The rostrum has segments four and five dusky to dark brown, it extends beyond the coxae of the mesothoracic pair of legs.

Thorax and appendages.—Hind tibiae 1.87 long. Hind tarsi .199 long. The hair on the hind tibiae is similar to that found on the tibiae of the alate viviparous female.

The abdomen.—The cornicles measure .71 in length, the reticulations at the apex are similar to those found on the alate female but do not extend so far. The anal plate is not as deep as that of the alate viviparous female. The cauda is .35 long otherwise as in the alate viviparous female.

The oviparous female

Size and general color.—Length from vertex to tip of anal plate 2.39, color more transcluent white than that of the apterous viviparous female, with dusky or brownish markings as follows: The extreme tip of the rostrum. The apical half of the base f the sixth antennal segment and all of the terminal process very light dusky. The apical portions of the tibiae and the tarsi are light-brown, much lighter in color than the same structures in the apterous viviparous female.

Head and appendages.—Antennal segments with the following proportional lengths: III .65, IV .54, V 54, VI .22 + 1.28. There may be one or no sensoria near the base of the third antennal segment. The rostrum extends just beyond the mesothoracic pair of legs.

Thorax and appendages.—The hind tibiae are 1.98 long, the sensoria on this segment extend well beyond the middle and are very difficult to see because of the lack of color on the surface of the tibia. The hair on the tibiae is mixed as is the case in the viviparous forms.

Abdomen.—The cornicles are .71 long. The cauda is .25 long and as a rule has four hair on a side.

Holotype apterous viviparous female.

Morphotype alate viviparous female.

Morphotype oviparous female.

All types have been deposited in the United States National Museum.

Data associated with types. Apterous viviparous female Skyway, Colo. July 22, 1947.

Alate viviparous female Skyway, Colorado July 15, 1947.

Oviparous female Skyway, Colo. Sept. 23, 1947.

This species may be collected on the under sides of the leaves of Solomons Seal *Polygonatum commutatum*. It is very easily disturbed and the slightest jar causes specimens to drop to the ground. As a rule the specimens are taken as solitary individuals and never more than one or two to a plant. I have collected many immature individuals but mature ones are few. This species is perhaps most closely related to *Macrosiphum mertensiae* G. & P. from which it differs in the apterous viviparous female in having from 0 to one secondary sensorium on the third antennal segment, the fifth segment being longer than the fourth, and by the rostrum extending beyond the coxae of the mesothoracic pair of legs. By some it may also be considered close to *Macrosiphum euphorbiae* (Thomas). From *Macrosiphum euphorbiae* this species differs by the color not being pink or green in the apterous forms, and

by the apterous forms not having more than one secondary sensorium on the third antennal segment. The alate form of this species differs from the alate of *Macrosiphum euphorbiae* in having lateral spots as well some spots on the dorsum, and by the legs and antennal segments being much paler. For those who may question my use of the term *euphorbiae* for the species which Dr. Frison and I in the Plant Lice or Aphiidae of Illinois referred to as *Macrosiphum* gei (Koch) I refer to the work of Dr. D. Hille Ris Lambers, Contributions to a Monograph of the Aphididae of Europe, Temminckа Vol. IV, pp. 84-89, 1939. In Stylops a Journal of Taxonomic Entomology Vol. II, part 8, Aug. 15, 1935 Dr. Lambers on page 170 calls attention to the fact that Mordwilko was able to separate *Macrosiphum gei* from *Macrosiphum solanifolii* (Ashmead) species which Theobald considered synonymous and whom Dr. Frison and I followed in the Aphiidae of Illinois. In this paper we placed *euphorbiae* as a synonym of *gei* and called attention to the fact that *euphorbiae* was similar to *solanifolii*. If Mordwilko's findings are correct this synonymy must be corrected and the species named by Thomas because of its priority stand over that described and named by Ashmead.

Mordwilko states that *Macrosiphum gei* always has at least 17 hairs on the cauda and *Macrosiphum solanifolii* at most 14.

Through the kindness of Dr. H. H. Ross of the Illinois Natural History Survey I have been loaned two of the three slides of *Macrosiphum euphorbiae* belonging to the type series of the Thomas collection. I have made a careful count of the hairs on the caudas of six specimens and find one specimen with eight hairs, two with nine and three specimens with eleven.

*Macrosiphum yagasogae* has hair on the cauda as follows: alate viviparous female nine, apterous viviparous female nine, oviparous female ten to eleven.

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# THE TECHNICAL NAME OF THE VIRGINIA DEER WITH A LIST OF THE SOUTH AMERICAN FORMS

By Philip Hershkovitz

The earliest valid scientific name for the Virginia, or White-tailed Deer is *Dama virginiana* Zimmerman ("Geographische Geschichte des Menschen und der vierfüssigen Thiere," Leipzig, vol. 2, pp. 24, 129, 1780). The work cited is well known but has been overshadowed by the same author's earlier "Specimen Zoologiae Geographicae, Quadrupedum . . ." published in 1777. This work, in Latin, was critically reviewed by J. A. Allen (Bull. Amer. Mus. Nat. Hist., vol. 16, pp. 13-22, 1902) and all the names proposed therein, including *Dama virginiana* (in Zimmerman, pp. 532, 678, and map opposite p. 36, 1777) were adopted. Opposition to Allen's measure arose (in Allen, *op. cit.,* p. 161, 1902) and centered on the questionable construction of some of the technical names in the "Specimen Zoologiae Geographicae." Most authors, including the present, now reject all names in Zimmerman's 1777 opus. On the other hand, scientific names appearing in the later "Geographische Geschichte" are properly proposed and, save for *Dama virginiana,* are universally cited. The several North American species first named by Zimmerman, 1780 and recognized by Miller (List of North American Recent Mammals, 1923), are as follows: *Bos moschatus* Zimm., vol. 2, p. 86 (= *Ovibos moschatus moschatus,* Miller, p. 494; genotype of *Ovibus* Blainville), *Latra* (*minima*) Zimm., vol. 2, p. 317 (genotype of *Chironectes* Illiger, Miller, p. 9), *Dipus Hudsonius* Zimm., vol. 2, p. 358 (= *Zapus hudsonius hudsonius,* Miller, p. 432; genotype of *Zapus* Coues,) *Phoca fasciata,* Zimm., vol. 3, p. 277, 1783 (= *Phoca fasciata,* Miller, p. 164; genotype of *Histriophoca* Gill).

Omission of *Dama virginiana* from the "Check List" is unaccountable. Miller's objection (Proc. Biol. Soc. Washington, vol. 15, p. 39, 1902) to the use of *Dama* dating from Zimmermann's "Specimen Zoologiae Geographicae," 1777, cannot

be applied to either the generic or specific name proposed by Zimmermann in 1780 for the Virginia Deer.

In the first part of the "Geographische Geschichte," 1780, Zimmermann showed that in spite of opinions to the contrary held by other Linnaean authors, the Virginia Deer is not the same as the Fallow Deer. Under the heading (p. 24) "Der Damhirsch," identified in the footnote as *Cervus dama* Linnaeus, Zimmermann states, "Ich habe mir Mühe gegeben, den Damhirsch in Amerika aufzusuchen; allein bis jetzt sehe ich mich völlig in der Pennantischen Meinung bestätiget, nämlich, dass er nirgends als in der alten Welt lebt. Die Hörner, so Herr Pennant von dem sogenannten amerikanischen Damhirsche geliefert hat, sind ohne Schaufeln, also ohne Hauptkennzeichen dieser Art. Daher halte ich den virginischen Damhirsch (*Dama virginiana* Raj. Synops., p. 86) für eine *neue nicht völlig genau bestimmte Art*, . . ." (italics mine). In the second part of the "Geographische Geschichte," Zimmermann formally distinguished the two deer from each other by describing each under a new name, thus:

[p. 128] "42 Der Dammhirsch [*sic*]
"*Platyceros Plinii Cervus* (*Dama*) Linn. XII. Erxl. p. 309
"Fallow Deer Penn. p. 48."
[Description follows]

[p. 129] "44) "Der Virginische Hirsch
"*Dama Virginiana*. Raji synops. quadr. p. 86 [1693]
"Fallow Deer, Lawson Carolina p. 123. Virginian Deer. Pennant Syn. p. 51. Tab. IX, fig. 2. Die Hörner.

"Die Hörner sind stark vorwärts, halb zirkelförmig gebogen; haben keine Stirnzinken; oberwärts mit vielen Enden besezt. Grösse eines Dannhirsches [*sic*]. Farbe graulich braun, (ziemlich helle.) Schwanz länger als am Reh. Eine völlig von unserm Dannhirsche [*sic*] verschiedene Art. Bewohnt in grossen Heerden Carolina, Virginien, Louisiana, und geht vielleicht bis Panama hinunter."

Judged by the description, the name *virginiana* is based primarily on Pennant's "Virginian Deer" though Ray is cited first. Ray (*op. cit.*) gave no technical name to the Virginia Deer. He merely quoted, under his cervine subdivision "*Cervus* PLAYTYCEROS" the description of a menagerie specimen originally from Virginia ("*Virginianae*") which he believed to be distinct from the true Fallow Deer. Obviously, it was Zimmermann's intention to credit Ray as the *first* author to make a distinction between the two kinds of deer and not as the author of a distinct name for the Virginia Deer. Allen (*op. cit.*) had already assigned all the North American forms of Virginia Deer to the genus *Dama* Zimmermann. Unfortunately, this revision remained practically stillborn for two reasons. First, Allen dated the name *Dama* from the controversial "Specimen Zoologiae Geographicae," 1777, instead of the accepted "Geographische Geschichte," 1780. Second, Palmer's inconsidered instruction (in Allen, Bull. Amer. Mus. Nat. Hist., vol. 19, p. 591, footnote, 1903) that *Dama* Zimmermann was "preoccupied" by *Dama* Frisch, 1775, apparently "settled" the issue. Consequently, Allen and others revived *Odocoileus* Rafinesque, 1832, as the generic name for the